FOX RIVER CURRENT

March/April 2001 Vol. 4, No. 2 Update from the Lower Fox River Intergovernmental Partnership

Report Finds Little Health Risk from Dredged PCBs Released into Air

By Rich Trotto, Wisconsin Department of Natural Resources

In public meetings and other discussions regarding the removal of polychlorinated biphenyl (PCB)-contaminated sediment from the Lower Fox River, one recurring issue raised is the potential loss of contaminants into the atmosphere during sediment removal and treatment.

Two demonstration projects have been done on the Lower Fox River to determine whether dredging can be accomplished in an effective manner. These projects included air monitoring to establish whether dredging, and the subsequent treatment and removal of sediment to a landfill, results in increased movement and loss of the chemical to the surrounding area, and, if so, to what extent.

The *Fox River Remediation Air Monitoring Report,* published by the Wisconsin Department of Natural Resources (DNR) details the results of this monitoring for one of those projects, the Sediment Management Unit (SMU) 56/57 demonstration project conducted from August to November 1999.

The air monitoring network consisted of 22 sampling stations located directly on the remediation site to as far away as 2 kilometers (1.25 miles). In addition, three sampling sites were located adjacent to the landfill where the sediment was disposed of. A total of 326 air samples were analyzed for PCBs.

The study found that dredging and processing of contaminated sediment did result in locally elevated levels of PCBs in the air. Those levels, however, did not exceed even the conservative level of concern adopted for this project. It was also determined that concentrations observed at locations greater than 1 kilometer (5/8 mile) from the project area were indistinguishable from background levels already present in the air due to volatilization from the river surface.

The report also made note of the fact that, "these observations were made during remediation of the most contaminated stretch of the river, and that other areas may be expected to have even smaller impacts."

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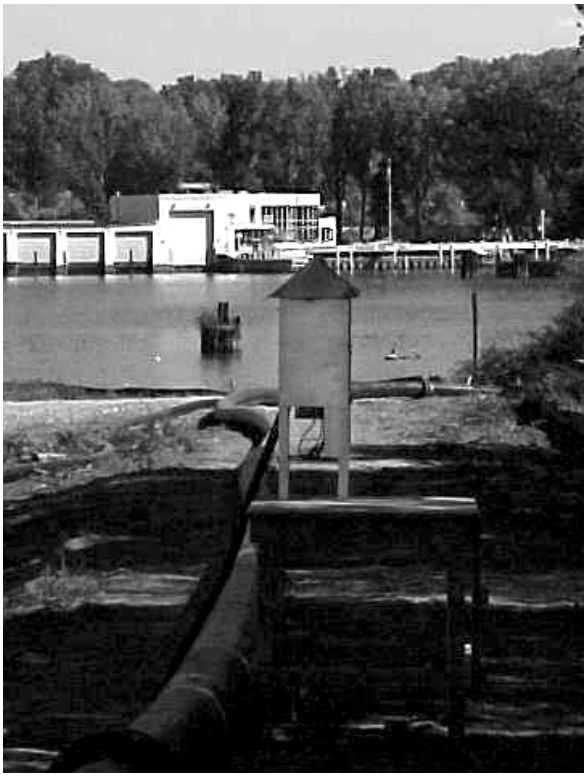

Air monitoring station at SMU 56/57 sediment treatment site.

Final SMU 56/57 Report Available

The final report for Sediment Management Unit (SMU) 56/57, dated January 2001, is available for review at the five information repositories (see page 7). Dredging, sampling, and monitoring are among the topics detailed. This document, like all others contained in the repositories, is to be treated like reference material.

National Academy Executive Summary Released

By Greg Swanson, Wisconsin Department of Natural Resources

In late December, the National Research Council of the National Academy of Sciences released its Executive Summary of the report entitled *A Risk Management Strategy for PCB-Contaminated Sediments*. The report itself will be released later this spring.

The summary indicates that the report will provide a framework and principles to guide the assessments of remedial choices at specific sites, rather than a generalized evaluation of technical options. The report does not recommend a cleanup technology for any specific sites.

Wisconsin Department of Natural Resources (DNR) Secretary Darrell Bazzell agreed with former Secretary George Meyer's assessment of the summary. Meyer had stated, "We expect our final cleanup plan to recommend a mix of the available alternatives, whether dredging, capping, or natural attenuation. The report reaffirms the risk-based approach that the DNR and the U.S. Environmental Protection Agency (EPA) have been taking in developing the cleanup plan for the Fox River." Bazzell went on to say, "This report also presents compelling scientific evidence that there are serious polychlorinated biphenyl (PCB)-related health risks to people and wildlife and we need to address the PCBs in the Fox River as soon as possible."

The summary listed 11 conclusions and recommendations that will be discussed in more detail in the report. Among those recommendations were the previously cited health risk and risk-based approaches to cleanup alternatives. Additionally, the risks should include societal, cultural, and economic impacts, as well as human health and ecological risks. The report also recommends that the risk management of PCB-contaminated sediment include the early, active, and continuous involvement of all affected parties and communities as partners, as has been exemplified in the Fox River. The report recognizes that current management options can reduce risks but cannot completely eliminate PCBs and PCB exposure from contaminated sites. This means that the short and long-term risks that the PCBs pose need to be considered when evaluating management strategies and that long-term monitoring and evaluation of PCB-contaminated sediment sites should be conducted to evaluate the effectiveness of site management and to ensure adequate and continuous protection.

The report also indicates the need for future research on PCBs and their effects, improvement of existing technologies for dealing with PCB-contaminated sediment, and the development and testing of new and innovative technologies to assess their effectiveness and applicability to various sites. The full report will be sent to the five Fox River information repositories as soon as it becomes available.

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According to David Grande, an air toxics chemist with the DNR who conducted the study, samples were collected during the dredging operation using a vacuum cleaner-like instrument. Air passes through the instrument and captures the PCBs in a series of filters. "We know that there are already PCBs in the air," said Grande. "What we found was that there wasn't a greater amount released that could be directly attributed to the remediation activity in the river."

Grande estimated the emission rates using three separate methods. In all cases, the most conservative assumptions were used to determine the maximum potential release of PCBs into the air. The study found that between .01 and .1 pounds of PCBs per day were released into the atmosphere. This corresponds to a maximum total possible loss to the atmosphere of up to 10.7 pounds, or less than one percent of the estimated 1,326 pounds of PCBs removed from the river bottom during dredging.

In order to evaluate the health risks associated with ambient PCB concentrations, researchers used a standard that was 10 times stricter than that used by EPA. The standard used projected that a person exposed to this concentration in the air for 70 years would have roughly a one in 100,000 risk of developing cancer from that exposure. Even given that strict standard, no samples exceeded this level, including those collected right next to the piles of dredged sediment, which were expected to be the highest of all the sampling locations.

By comparison, eating one PCB-contaminated fish may expose an individual to more PCB mass than breathing the air constantly during sediment removal at the most contaminated site for more than 300 days, which is longer than the project lasted.

Grande said the amount of PCBs released into the air is small compared to the benefit of removing the

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Survey Shows Anglers Still Eat Fox River Fish

By Eric Aakko, Wisconsin Department of Health and Family Services

Not all anglers are aware of polychlorinated biphenyls (PCBs) in Fox River fish. According to a recent study published in the January edition of the Wisconsin Medical Journal, some anglers, such as minorities and non-English speaking anglers, do not fully understand the health risks of eating contaminated fish.

Of 103 anglers surveyed, 17 percent admitted that they ate some or all of the fish they caught from the river. Non-English speaking anglers reported eating most of the fish they caught. These non-English speaking anglers, who were mostly Hmong, reported that they prefer to eat white bass. White bass is on the Wisconsin Department of Natural Resources (DNR) fish advisory "Do Not Eat" list. According to the survey, these anglers were also unaware of this fish advisory.

University of Wisconsin – Madison Great Lakes Fish Program researcher Dyan Steenport agreed with the survey. "More work needs to be done about educating the public about the fish advisory, particularly in the Hmong and Laotian communities," she said.

Anglers who fished at two popular fishing sites along the Fox River were surveyed from May through October 1999: Voyageur Park in DePere and the Metropolitan Boat Landing in Green Bay. A Wisconsin Department of Health and Family Services (DHFS) staff member interviewed the English-speaking anglers and an interpreter was used to interview Hmong and Laotian-speaking anglers.

Of the 83 percent of anglers who reported not eating Fox River fish, 75 percent said they did not eat the fish because they were concerned about contamination; 11 percent said they did not like the taste; and 5 percent said they fished only for sport or trophy.

Numerous research studies show PCBs concentrate up the food chain: fish eat insects and bottom-dwelling organisms that have absorbed PCBs from contaminated river sediment. Big fish eat many small fish and increase their PCB concentrations. Since humans are at the top of the food chain, the multiplication of PCBs can be significant if they eat a large quantity of fish. The result can lead to a variety of health problems in children and adults.

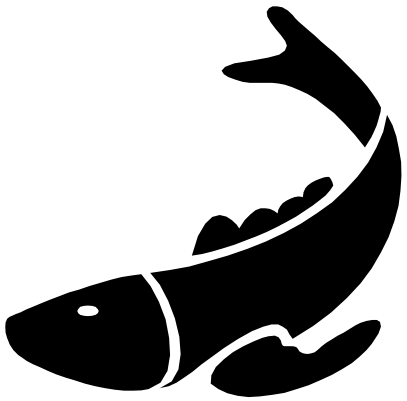
"The effects of PCBs can become problematic for pregnant or nursing women and young children," said Steenport. "Eating PCB-contaminated fish has been linked to delayed physical development and learning disabilities in children."

The 1999 angler survey mirrors the results from a 1997 U.S. Fish and Wildlife Service (FWS) study of 102 anglers interviewed near the De Pere dam and Voyager Park. The FWS study found that most of the anglers who ate Fox River fish were Hmong or Laotian. Nearly all of the English-speaking anglers had heard of pollution issues in the river, while over a third of the non-English speaking anglers had not.

Because eating contaminated fish is a health concern to the DNR and DHFS, they publish an annual fish consumption advisory booklet. The booklet recommends what species of fish to limit or avoid eating. Fish advisory signs written in English and Hmong have been posted at popular fishing sites along the Lower Fox River. These signs give information about which fish are safe to eat and how to reduce the amount of PCBs in a fish meal by properly trimming the fat.

For more information about the angler survey and the fish advisory, visit the Internet: Wisconsin Medical Journal (full angler survey article):

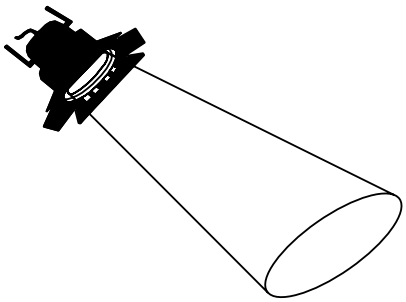
www.wismed.org/wmj/nov2000/fish.html; DNR/DHFS fish advisory booklet: www.dnr.state.wi.us/org/water/fhp/fish/advisories/



In response to reader requests, the Fox River Current will regularly feature other river projects similar to the Lower Fox River.

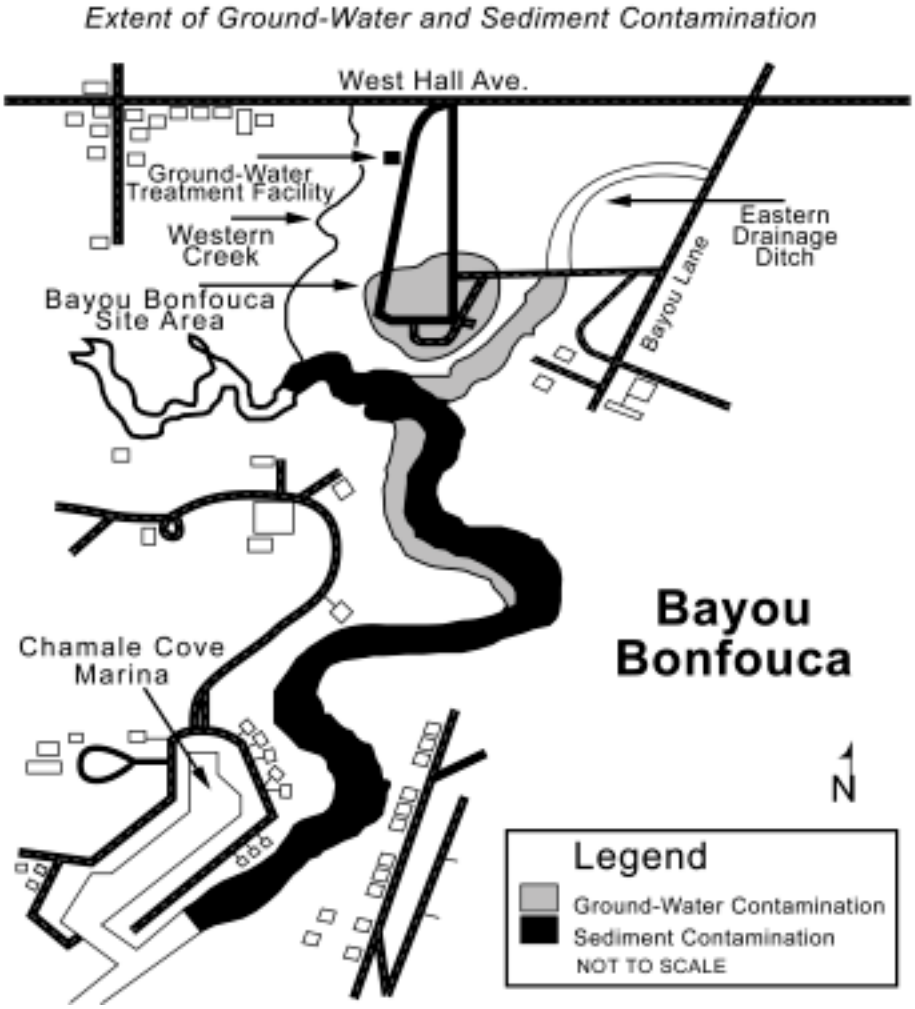
Spotlight On:

Bayou Bonfouca



By Susan Pastor, U.S. Environmental Protection Agency

Although the Bayou Bonfouca Superfund site in Slidell, Louisiana is not a river, it makes for an interesting site to feature. Its soil and sediment are contaminated with polynuclear aromatic hydrocarbons (PAHs) which came from a creosote plant that operated there for about 75 years dating back to the late 1800s.



The site, located on the north shore of Lake Ponchartrain about 30 miles north of New Orleans, includes a portion of scenic Bayou Bonfouca. A bayou is typically a marshy body of water that is a tributary to a lake or river, in this case, Lake Ponchartrain. While the contaminant of concern is different than that of Wisconsin's Lower Fox River, the end result was similar.

The 54-acre site, which included bayou sediment, was heavily contaminated with creosote, making about 1.5 miles of the bayou biologically sterile. Contamination was so severe, it injured or killed aquatic animals and waterfowl and posed a significant risk to recreational users. This led to the issuance in 1987 of swimming and fish consumption advisories that were due to possible health effects from eating fish and shellfish from the bayou.

According to U.S. Environmental Protection Agency (EPA) Remedial Project Manager Katrina Coltrain, the staff in Region 6 shared some common concerns with the Region 5 staff who work on the Lower Fox River. "As I recall, there were people who would fish in the bayou even though signs were posted," she said.

Because many of the 26,000 area residents believed this Superfund site directly affected them, community involvement was high. As with the Lower Fox River, a local group received an EPA Technical Assistance Grant (TAG) to hire its own advisor to interpret information related to the site and to share what was learned with the rest of the community. The group, Slidell Working Against Major Pollution (SWAMP) has had the TAG since 1994. During that time, SWAMP was involved in attending meetings, commenting on the proposed cleanup plan, requesting extensions to the comment period for the plan and planning workshops with EPA. "They were concerned and involved, but I think they are happy now," Coltrain stated.

In addition to the TAG group, EPA Region 6 staff worked with other concerned local officials and citizens of the city of Slidell including the groups, Citizens for a Cleaner Slidell and the Palm Lake Homeowners Association. Because EPA is committed to continuous public involvement, numerous fact sheets were prepared and several public meetings and workshops were held. According to EPA literature, attendance at meetings over an 11-year period ranged from 40 to 250 people.

According to the Region 6 web site, involving the citizens in the decision-making process apparently paid off, since many people were strongly supportive of EPA's efforts. In 1987, EPA selected a $140 million cleanup plan that included dredging of contaminated sediment. About 186,000 tons of contaminated soil and bayou sediment would be dredged and treated on site. Since then, the plan has been modified several times to improve different aspects of the cleanup, including some that resemble elements of the Lower Fox River Sediment Management Unit (SMU) 56/57 project.

At Bayou Bonfouca, the use of silt curtains to prevent sediment from moving downstream during the dredging operation and covering the dredged areas with clean material were among the items added to the cleanup plan. Coltrain said the methods used were not considered "high tech," but they definitely did the job.

"Sheet piling walls were put in to keep the banks stable in the bayou," Coltrain explained. "They used a barge with bins and a backhoe on the back. The backhoe scooped the sediment and put it on the barge for partial dewatering."

Coltrain added that EPA Region 6 was pleased with the result. "We finished 18 months ahead of schedule," she stated.

The cleanup, which was completed by 1997, was a cooperative effort among EPA, Louisiana Department of Environmental Quality, the City of Slidell, and the Braselman Corporation. This cooperative effort resulted in the restoration of 1.5 miles of the bayou for aquatic life, as well as for human recreational and residential uses. The city was given the site, upon completion of the cleanup, to use as a maintenance yard, sewerage control facility or a park.

Considered a national success by EPA's Headquarters office in Washington, DC, the cleanup has fostered economic, environmental, and social impacts throughout the city. According to EPA's Office of Emergency and Remedial Response in Washington, "Economically, the area has experienced increased employment, personal income and expenditures, property values, and tax revenues. Environmentally, the cleanup of the bayou also has protected the acres of wetlands and sensitive habitats that provide food and shelter for several endangered species.... Finally, the cleanup has ensured the safety of recreational users of the bayou."

For further information on the Bayou Bonfouca site, contact Katrina Coltrain at (214) 665-8413, or refer to the Region 6 web site at http://www.epa.gov/region06.

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contaminants from the river. "We know that the river is the primary source of PCBs being released into the atmosphere," he added. "By taking the PCBs out of the river, we're keeping them from continually being released into the air over time." During the 1989-1990 Green Bay Mass Balance Study, an estimated 154 kilograms (340 pounds) of PCBs were released into the air from Green Bay.

During the SMU 56/57 project, the majority of the samples collected during a 24-hour period at the landfill showed no detectable levels, while tests over a 72-hour period showed very minor levels of detection. Most samples were indistinguishable from levels found in the urban background samples.

The air monitoring at the two demonstration sites clearly illustrates that PCB losses to the air during cleanup activities pose little or no risk to area residents. Even the Fox River Group's (FRG) consultant Blasland, Bouck & Lee, Inc. (BBL) concluded that, "Although increases in ambient air PCB concentrations were observed near the sediment dewatering area, estimated PCB emissions and resulting concentrations were found to be relatively small and insignificant relative to human exposure and risk."

These results are consistent with results from tests done by EPA at other sites around the country. As a result, it was decided not to conduct air quality monitoring during the SMU 56/57 project during summer and fall 2000.

There has been no decision made on the extent of air monitoring, if any, for future projects. Grande, however, says he believes there should be some monitoring of the landfill sites. "I think that there should be a low level of air monitoring effort conducted for a couple of years around the landfills to ensure that there are not volatile losses," he said.

Copies of the report can be found in the five information repositories or on the Internet at www.dnr.state.wi.us/org/water/wm/lowerfox/.

Profile On . . . Dave Ullrich

Fox River involvement returns EPA official to his roots

By Susan Pastor, U.S. Environmental Protection Agency

When employees of the U.S. Environmental Protection Agency (EPA) Regional office in Chicago see Acting Regional Administrator Dave Ullrich out for his mid-day run, they probably think he doesn't have a care in the world; however, nothing could be further from the truth.

Clad in running clothes, the 27-year EPA veteran sprints along the crowded streets of downtown Chicago, with a lot on his mind. In January, he was appointed as the EPA regional office's interim leader when former Regional Administrator Frank Lyons resigned. Since then, Ullrich has been working with his staff assigned to the Lower Fox River project to ensure that progress continues.

"I was involved before Frank (Lyons) came and will continue to be involved," Ullrich said. "I will participate in any major public events on the cleanup, have direct involvement in cleanup negotiations, and continue to be involved with the state, tribes, and federal offices on policy decisions concerning the Fox River cleanup."

His Fox River involvement started long before EPA signed a 1997 agreement with the Wisconsin Department of Natural Resources (DNR) as well as two other federal agencies and two local tribes. In 1973, the Wausau native graduated from the University of Wisconsin Law School and accepted a job as an EPA attorney. Shortly after coming to Chicago, Ullrich worked on water pollution permits for the Fox and Wisconsin Rivers. Because of his personal and professional ties, Ullrich, 53, is very interested in seeing a Fox River cleanup.

"Because I've been involved in the Fox since the early 1970s, I have an attraction and a commitment to see a full cleanup," he explained. "I've already seen a dramatic improvement on the Wisconsin River."

Although Ullrich lives in Chicago with his wife and son, he still relies on his Wisconsin instincts to help him relate to issues in his home state. "I have a good understanding of how important resource protection is to the people of Wisconsin and how important the paper industry is to the state," he continued. "I have a sense of what it takes to find the right balance to lead to a cleanup so the Fox can be restored to full recreational use while the paper industry can still be viable. I believe a sound economy and a cleanup are compatible."

Dave Ullrich

While Ullrich, who still enjoys outdoor sports with his family in northern Wisconsin, has an understanding of what is important to Wisconsin residents, he also finds the Lower Fox River project challenging. "To have six different organizations on the government side and seven different companies on the corporate side creates a set of challenging circumstances," he explained. "On the government side, we are almost in complete agreement on the goal we are trying to achieve. The only difficulty is agreeing on how best to reach that goal." He continued, "I also believe the companies are committed to cleaning up the river, but we and the companies have significantly different ideas on how to best do that. I'm sure we will be able to work through those difficulties."

In his long tenure with EPA, Ullrich has had to work through issues not only outside of his home state, but also often outside of his country. In addition to serving as an attorney in

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the EPA Region 5 air and water enforcement programs and managing its hazardous and solid waste programs, Ullrich worked for the German Interior Ministry on environmental matters in 1985. Later, he helped set up the Great Lakes Baltic Sea Partnership that focused on toxics and invasive species. He has also served as co-chair of the Water Quality Board of the International Joint Commission since 1997.

Back at home, Ullrich enjoys working in his small garden and bicycling with his wife, Polly, and son, Eric. His long-term, yet doable, vision returns him to his roots. "Someday, I would like to take a canoe trip down the entire length of the Wisconsin River," he said, "and write about my experiences growing up on the river, being involved in the cleanup, and enjoying the resource for what it is today."

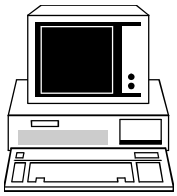
Check out these web sites:

http://www.dnr.state.wi.us/org/water/wm/lowerfox/

http://www.epa.gov/region5/foxriver/

http://www.fws.gov/r9dec/nrdar/nrdamain.html

http://www.fws.gov/r3pao/nrda/



Out and About...

The Fox River Intergovernmental Partnership, made up of the U.S. Environmental Protection Agency (EPA), Wisconsin Department of Natural Resources (DNR), U.S. Fish and Wildlife Service (FWS), National Oceanic and Atmospheric Administration (NOAA), Oneida Tribe of Indians of Wisconsin and Menominee Indian Tribe of Wisconsin, is available to provide speakers to organizations in the Fox Valley area. To request a speaker from the Fox River Intergovernmental Partnership, contact Greg Swanson. Greg's contact information is listed on the back page of this newsletter.

Information Available at Local Libraries

The Intergovernmental Partners invite the public to review technical reports, fact sheets and other documents related to the Lower Fox River cleanup at information repositories set up in the reference sections of the following local libraries. Information repositories at the public libraries in DePere, Kaukauna, Little Chute, Neenah, and Wrightstown have been discontinued. However, binders containing fact sheets will be mailed to and maintained at these locations as well as at the repositories listed below.

- **Appleton Public Library**, 225 N. Oneida St., Appleton, WI; 920-832-6173
  - **Location:** Reference area 2nd floor (Outside the study room)
  - **Questions:** Ask at reference desk
  - **Contact:** Margaret Ernst
- **Brown County Library**, 515 Pine St., Green Bay, WI; 920-448-4381, ext. 394
  - **Location:** Telephone reference area, 2nd floor
  - **Questions:** Ask at 2nd floor information desk
  - **Contact:** Peggy Quinn
- **Door County Library**, 107 S. Fourth Ave., Sturgeon Bay, WI; 920-743-6578
  - **Location:** Reference section bottom shelf
  - **Questions:** Ask at reference desk
  - **Contact:** Nancy Emery
- **Oneida Community Library**, 201 Elm St., Oneida, WI; 920-869-2210
  - **Location:** Adult reference section
  - **Questions:** Ask at circulation desk
  - **Contact:** Lou Williams
- **Oshkosh Public Library**, 106 Washington Ave., Oshkosh, WI; 920-236-5200
  - **Location:** Reference section
  - **Questions:** Ask at reference desk
  - **Contact:** Susan Velsky

An Administrative Record, which contains detailed information upon which the selection of the SMU 56/57 removal action and final site cleanup plan will be based, is also available for review at the Appleton and Brown County Libraries.

Prepared by the Fox River Intergovernmental Partnership: Wisconsin Department of Natural Resources, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Menominee Indian Tribe of Wisconsin, Oneida Tribe of Indians of Wisconsin, and National Oceanic and Atmospheric Administration. Supporting agencies include the Wisconsin Department of Health and Family Services, the U.S. Agency for Toxic Substances and Disease Registry, and the U.S. Army Corps of Engineers.

Disclaimer: The opinions expressed in these articles are solely those of the authors and are not necessarily shared by all members of the Fox River Intergovernmental Partnership.

INSIDE FOX RIVER *CURRENT*

Fox River Current is published bimonthly by the Fox River Intergovernmental Partnership. Its purpose is to provide up-to-date information about cleanup and restoration efforts on the Lower Fox River. Call Greg Swanson at (608) 264-6024 to request a subscription or alternative format. Feedback on articles and ideas for future issues are welcome. Send comments to Greg Swanson, *Fox River Current*, DNR, CE/6, P.O. Box 7921, Madison, WI 53707 or email <swansg@dnr.state.wi.us>

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